

### III. REMARKS

Claims 1-20 are pending in this application. By this response, no claims have been amended. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Furthermore, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the following remarks is respectfully requested.

#### A. REJECTION OF THE CLAIMS UNDER 35 U.S.C. 102(e)

In the Office Action, claims 1-5, 10-17, 19 and 20 are rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Bryant et al. (U.S. Pat. Pub. No. 2005/0285187 A1), hereinafter “Bryant.” In response, Applicants submit that the Office fails to show that Bryant discloses each and every feature of the claimed invention. For example, with respect to independent claim 1, the Office fails to show that Bryant discloses, *inter alia*, “at least two active regions having different surface directions, each active region including one of a plurality of nFETs and a plurality of pFETs.” (See claim 1, and as similarly claimed in claims 5 and 17.) In support of its rejection, the Office asserts that elements 120 and 140 in FIG. 4 of Bryant disclose this claimed feature. Office Action, p. 2. As taught by Bryant, FIG. 4 incorporates “the NFET devices 20 of the present invention as depicted in FIG. 1, and the pFET devices 45 of the present invention, as depicted in FIG. 2, on the same substrate.” (Paragraph 0110.) As further taught by Bryant, “a layered structure 100 is first provided including a biaxially tensile strained semiconducting layer 15 formed overlying a SiGe strain inducing layer 17,” prior to formation of the nFET/pFET regions. *Id.* However, Applicants submit that regions 120 and 140 each have the same surface

direction. As shown in FIG. 4, elements 120 and 140 each contain strained semiconducting layer 15 formed over SiGE layer 17, with strain inducing liners on top. Even if, assuming, *arguendo*, that a surface direction of strained semiconducting layer 15 is influenced by strain inducing layer 17, any change in direction caused by the interaction between layers 15 and 17 will be the same for elements 120 and 140. Accordingly, Applicants submit that Bryant fails to disclose each and every element of claim 1, including at least two active regions having different surface directions, each active region including one of a plurality of nFETs and a plurality of pFETs. Therefore, Applicants respectfully request withdrawal of the rejection.

Furthermore, with respect to independent claims 5 and 17, Applicants submit that Bryant fails to disclose each and every element of the claimed invention, including “forming a region in the opening coplanar with a surface of the first wafer, wherein the region has the second surface direction.” In support of its rejection, the Office asserts that reference element 70 of FIG. 4 discloses this claimed feature. However, interpreting Bryant only for the purposes of this response, Applicants submit that element 70 represents “an isolation region 70, wherein an intrinsically tensile or intrinsically compressive dielectric fill material can increase the biaxial strain within the nFET or pFET device regions 120, 140.” Paragraph 0112. However, Bryant fails to disclose that the dielectric fill material in isolation region 70 has a direction the same as a second surface direction.

In contrast, the claimed invention recites, *inter alia*, forming a region in the opening coplanar with a surface of the first wafer, wherein the region has the second direction. As shown in FIG. 8, the present invention discloses region 52, including epitaxial layer 60, having second surface direction and orientation of silicon layer 34, i.e., (100) surface orientation and <110> surface direction. Bryant, however, fails to disclose this claimed feature. Accordingly,

Applicants submit that Bryant fails to disclose each and every element of claims 1, 5 and 17 and respectfully request withdrawal of the rejection.

## **B. REJECTION OF CLAIMS UNDER 35 U.S.C. 103(a)**

In the Office Action, claims 6-9 and 18 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Bryant, in view of Machesney et al. (U.S. Pat. No. 5,670,388).

Applicants herein incorporate the arguments presented above with respect to the corresponding independent claims, from which each of the claims depend. The dependent claims are believed to be allowable based on the above arguments, as well as for their own additional features.

Furthermore, with respect to all other dependent claims, Applicants herein incorporate the arguments presented above with respect to the corresponding independent claims, from which each of the claims depend. The dependent claims are believed to be allowable based on the above arguments, as well as for their own additional features.

Applicants submit that each of the pending claims is patentable for one or more additional unique features. To this extent, Applicants do not acquiesce to the Office's interpretation of the claimed subject matter or the references used in rejecting the claimed subject matter. Additionally, Applicants do not acquiesce to the Office's combinations and modifications of the various references or the motives cited for such combinations and modifications. These features and the appropriateness of the Office's combinations and modifications have not been separately addressed herein for brevity. However, Applicants reserve the right to present such arguments in a later response should one be necessary.

In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,

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